REMARKS

Reconsideration is respectfully requested.

Entry of the above amendments is courteously requested in order to place all claims in this application in allowable condition and/or to place the non-allowed claims in better condition for consideration on appeal.

Claims 1 through 5, 7 through 13, 16 through 19, 21 and 23 through 26 remain in this application. Claims 6, 14, 15, 20 have been cancelled. No claims have been withdrawn or added.

Paragraphs 3 through of the Office Action

Claims 1 through 4, 7, 11, 13, 16, 20 and 23 through 26 have been rejected under 35 U.S.C. §102(e) as being anticipated by Talluri. (It is noted that claim 20 was previously cancelled.)

Claims 1 through 5, 7, 10, 11, 13, 16, 18, 20 and 22 through 26 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Talluri in view of Ebstyne. (It is noted that claims 20 and 22 were previously cancelled.)

Claims 8, 9 and 17 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Ebstyne in view of Talluri and further in view of Ebata.

Claims 10 and 18 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Ebstyne in view of Talluri and further in view of Wells.

Claims 12 and 19 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Ebstyne in view of Talluri and further in view of Watkins.

Claims 8, 9 and 17 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Talluri and further in view of Ebata.

Claims 10 and 18 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Talluri in view of Wells.

Claims 12 and 19 have been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Talluri in view of Watkins.

Claim 21 has been rejected under 35 U.S.C. Section 103(a) as being unpatentable over Ebstyne in view of Talluri and further in view of Ebata and Watkins.

Claim 1 requires "monitoring at least one of the grid computers for activity indicating that additional disk storage space has been added to the at least one grid computer". (Independent claim 21 includes a similar requirement.)

It is contended in the rejection of the Office Action that:

> Furthermore, Talluri inherently does teach the claimed monitoring step by disclosing about using the portion/percentage of the available/unused data storage capacity from the other servers/nodes temporarily, until additional data storage resources on this particular server is installed/added by the service provider (e.g. see paragraph [0016]).

Turning to the Talluri patent application, it states at paragraph [0016] that:

> [0016] Another example of a beneficiary of such a storage policy would be an `application services provider` (ASP) where storage requirements and usage rapidly fluctuate. Consider such a company whose primary business is offering managed web-hosting services for their clients, who lease dedicated servers owned and managed by the company (service provider). Beyond a web presence, the clients' websites are further designed to accept customer data and sales orders for their merchandise/services. Such information is stored in databases on the servers. During instances when the data stored on a particular dedicated server is approaching the maximum available capacity (including the capacity on any direct attached storage system that may be connected to and made available to the server) and when the server

> cannot be taken down (as that would lead to an interruption of business activity)--the ability to seamlessly segment available data storage capacity on other servers (or server groups (SG)) and use a percentage of the same for storing data from this particular server would be a very potent option for the service provider. This may be done temporarily, until additional data storage resources are installed on this particular server or as a policy across all dedicated servers being managed by the service provider.

However, it is submitted that this portion of the Talluri patent application does not "inherently" disclose the requirement of "monitoring at least one of the grid computers for activity indicating that additional disk storage space has been added to the at least one grid computer". To be inherently disclosed in a document, the allegedly inherent feature must necessarily flow from the disclosure. It is noted that the Board of Patent Appeals and Interferences has stated in Ex parte Levy, (17 USPQ 2d 1461, 1464 (B.P.A.I. 1990)) that (all emphasis added):

> [T]he examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic *necessarily* flows from the teachings of the applied prior art.

Moreover, in this case, it does not necessarily flow from the above discussion in the Talluri patent application that the Talluri system "monitor[s] at least one of the grid computers for activity indicating that additional storage space has been added to the at least one grid computer". Clearly, the Talluri system does not necessarily have to "monitor" activity on the "particular server" to be informed that "additional data storage resources are installed", as an operator of the "particular server" may simply inform the Talluri system of the installation of additional storage, without the Talluri system performing any "monitoring of activity indicating that additional disk storage space has been added". It is submitted that this is more likely of the scenarios. It is further noted that the Federal Circuit has stated in Continental Can Co. USA v. Monsanto Co., 20 USPQ 2d 1746, 1749 (Fed. Cir. 1991) that (underline emphasis added):

> To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence. Such evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and that it would be so recognized by persons of ordinary skill. *In re Oelrich*, 212 USPQ 323, 326 (C.C.P.A. 1981) (quoting *Hansgirg v. Kemmer*, 40 USPQ 665, 667 (C.C.P.A. 1939)) provides:
>
> > Inherency, however may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

Thus, it is submitted that it is just as likely that an administrator of the "additional server" informs the Talluri system of the additional data storage resources than there is any monitoring of activity that would indicate such an addition.

It is therefore submitted that the claimed element of claim 1 is not inherent in the system of the Talluri system, and therefore that Talluri does not anticipate claim 1, or claim 21, which includes a similar requirement.

Further, it is noted that in the section 103 rejections based upon Ebstyne in view of Talluri, the alleged inherency of this feature in Talluri is also relied upon. For the reasons set forth above, it is submitted that these combinations would not lead one of ordinary skill in the art to the requirements of claim 1.

Claim 8 requires, in part, "receiving on one of the at least one grid computers, *from a local user of the one grid computer*, designation of a predetermined minimum amount of disk storage space on the disk drive of the one grid computer to be reserved from inclusion in the single combined virtual storage drive" and "monitoring the one grid computer for activity indicating that the predetermined minimum amount of reserved disk storage space of the total disk storage space on the one grid computer has not been maintained" (emphasis added).

It is conceded in the rejection of claim 8 that the Ebstyne patent application does not disclose all of the requirements of claim 8 as previously presented, and it is then asserted that:

> However, both Ebstyne and Talluri failed to specifically teach the further limitations of 0) monitoring the one grid computer for activity indicating that the predetermined minimum amount of reserved disk storage space of the total disk storage space on the one grid computer has not been maintained; and (ii) allocating disk storage space on the one grid computer for use by local applications after detecting activity indicating that the minimum amount of reserved disk storage space has not been maintained to restore at least the predetermined minimum amount of reserved disk storage space.

The rejection then looks to the Ebata patent for the requirement that is conceded not to be found in the Ebstyne or Talluri patent applications:

> Ebata, on the other hand, teaches a method for moving files between storages across the network to rebalance the free disk space across the network. Ebata further teaches the step of monitoring at least one of the grid computers (i.e. at least one of the storage across the network) for activity indicating that a predetermined minimum amount (i.e. the threshold value) of free disk storage space of the total disk storage space on the grid computer has not been maintained (i.e. there is imbalance in available and minimum free disk space), wherein the predetermined minimum amount of free disk storage space is set using an agent application (i.e. an instruction from an administrator) on the at least one grid computer (i.e. the threshold value is set in the configuration information module (i.e. 180 in *Fig.* 1) of at least one grid computer (i.e. 8 in Fig. 1) (e.g. see paragraph [0045]); and (ii) allocating disk storage space on the at least one grid computer for use by local applications after detecting activity indicating that the minimum amount of free disk storage space has not been maintained to restore at least the minimum amount of free disk storage space (e.g. see the abstract).

However, considering the requirements defined in claim 8, which are discussed, for example, on pages 11 and 12 of the present patent application, it is submitted that one of ordinary skill in the art, considering the discussions in either Ebstyne, Talluri, or Ebata, would not arrive at the requirements of claim 8, especially those requirements regarding the local user. More specifically, the Abstract of the Ebata published patent application states that (emphasis added):

> A method for moving files between network storages in a virtualized network storage system having multiple network storages and thereby rebalancing the free disk spaces therein. It periodically judges whether to start rebalancing. Two different conditions are adopted for the determination of start: (a) there is an imbalance of free disk spaces and the minimum value of the free disk spaces is less than a threshold and (b) there is an imbalance of free disk spaces and the frequency of accesses to the system is less than a threshold. Rebalancing is carried out until the difference in free disk spaces falls below the threshold to the extend that the maximum execution time of rebalancing will not be exceeded. If a request to write into a file which is being moved from a client takes place during a file moving step, the movement of the file is aborted and the file is deleted from the destination thereof. Then, another file is selected and the file moving step is carried out again. Or, the write request from the client is abandoned and the movement of the file is continued.

The Abstract of the Ebata patent application thus leads one of ordinary skill in the art to understand that when an imbalance of free disk occurs, and either the minimum free space on a disk is not present or a minimum number of accesses does not occur, that rebalancing should occur. It is submitted that the Ebata Abstract suggests that the primary consideration for rebalancing is an imbalance in free disk space in the Ebata system, and another condition that may be less than a minimum storage space or less than a minimum disk access. Thus, the minimum free space threshold is not really a "violation" of the minimum amount of free space, as it is only considered after an "imbalance" of free space on the systems is detected.

Further, in the referenced paragraph [0045] of the Ebata patent application, it is stated that (emphasis added):

> [0045] The visualizing means 9 comprises file location information 90, a file access processing unit 110, and a management unit 120. The file location information 90 holds correlation between files managed in the virtualized network storage system 8 and the identifies of network storages which keep the files. The details will be described in the section of (File Location Information) below. The file access processing unit 110 accepts a file access request in the virtualized network storage system 8 from the client 1, and processes the file access request. The details will be described in the section of (File Access Processing Unit) below. The management unit 120 accepts

> instructions from an administrator who manages the virtualized network storage system 8 through Web or a console. These instructions includes an instruction to change the setting of the virtualizing device 3 and an instruction to change the configuration of the virtualized network storage system 8. In response to these instructions, the management unit 120 changes the contents of the file location information 90. The configuration information for the free disk space rebalancing means 10 of the present invention is also set by the administrator through the management unit 120. The details will be described in the section of (Configuration Information for Rebalancing Controller) below.

This very general discussion of the "configuration information" is submitted to be too vague to inform one of ordinary skill in the art the step of "receiving on one of the at least one grid computers... designation of a predetermined minimum amount of disk storage space on the disk drive of the one grid computer to be reserved from inclusion in the single combined virtual storage drive", especially "*from a local user of the one grid computer*". The "administrator who manages *the virtualized network storage system* 8 through Web or a console" is clearly not "a local user of the one grid computer", as required by claim 8. Again, it is submitted that one of ordinary skill in the art understands that Ebata is suggesting that it is an imbalance of free disk spaces, and not a violation of a minimum free disk space on a system, that is being detected and acted upon here.

Further, claim 25 requires "receiving on the one grid computer, from the local user of the one grid computer, designation of a minimum amount of free disk storage space to be maintained on the disk drive of the one grid computer", which is also submitted to be foreign to Ebata

Claim 13 requires "allocating a portion of the total disk storage space on each of the at least two grid computers to be made available as part of the virtual storage drive" and "*reserving a portion of predetermined size of the total disk storage* space on each of the at least two grid computers, said reserved portion of the disk drives being reserved for local use on the respective grid computer of the at least two grid computers". (Independent

claim 21 includes a similar requirement.) As noted above, the Ebstyne patent application does not disclose to one of ordinary skill in the art reserving space for local use, but instead discusses a statistical analysis that assumes that 15% of the space on a disk would be "free", but this does not indicate to one of ordinary skill in the art that this space is reserved for any particular purpose, much less reserved for local use. Further, the Ebata patent appears to suggest that free space should be absorbed into the system rather than reserved for any local uses.

It is therefore submitted that the cited patents, and especially the various allegedly obvious combinations of Talluri, Ebstyne, Abata, Wells, Watkins, and Ebata set forth in the rejection of the Office Action, would not lead one skilled in the art to the applicant's invention as required by claims 1, 8, 13 and 21. Further, claims 1, 4, 5, 7, 10, 11, 24 and 25, which depend from claim 1, claim 3, which depends from claim 2, claim 9, which depends from claim 8, claim 12, which depends from claim 4, claims 16, 18 and 19 which depends from claim 13, claim 17, which depends from claim 13, claim 23, which depends from claim 3 and claim 26, which depends from claim 8 also include the requirements discussed above and therefore are also submitted to be in condition for allowance.

Withdrawal of the §103(a) rejection of claims 1 through 5, 7 through 13, 16 through 19, 21 and 23 through 26 is therefore respectfully requested.

CONCLUSION

In light of the foregoing amendments and remarks, early reconsideration and allowance of this application are most courteously solicited.

Respectfully submitted,

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